

From: "Hiro Tachibana" <hiro@digeo.com>  
 To: "James K. Okamoto" <jkokamoto@townsend.com>  
 Date: Thu, Aug 24, 2000 3:39 PM  
 Subject: FW: More Patents

James, can you give me a call? Hiro

-----Original Message-----

From: Tony Istvan [mailto:tony@digeo.com]  
 Sent: Monday, August 21, 2000 8:33 AM  
 To: Steven Young; Hiro Tachibana; Jim Billmeyer; Robert Novak  
 Subject: More Patents

Here are some more patent ideas. Please assign the necessary legal resources. The first two are related, but I wanted to separate the one with specific EPG usage out since it will no doubt be challenged by TV Guide/Gemstar at some point.

Thanks,

Tony

# Real Time Synchronization of Computer and Television

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Anthony Istvan

As we move forward with our various product lines, we will end up with a single user experience and identity that spans multiple display devices (thick client STB, thin client STB, PC, web pad, cell phones, palm pilots, etc...). There will be the capability for a single user to be actively using multiple devices concurrently. In such an environment, it makes sense to allow the user to choose the device that is best suited for the content and circumstance. There is also the possibility that an indicator may occur on one device, and the user would prefer to respond to the indicator on a different device. The devices can include PCs, cell phones, hand held computers, pagers, etc. Basically, anything that can communicate with a server.

For example, an ATVEF trigger may be embedded in the broadcast stream. The trigger signals a buying opportunity on the television display by means of an on screen icon. The user may have a laptop computer they are currently using to read email. They then use the laptop to pursue the buying opportunity instead of clobbering the television display, which is being viewed by others at the same time. It also allows the user to use a device with a better display for the type of content being accessed.

In order to facilitate such cooperation, we must rely on the client server architecture that is being created to support the STB. The server must be the mediator of communication between the various clients. The clients can use only a web browser that polls the server periodically, or we can have resident applications on the clients that can receive signaling events from the server. Once the event is handed off to the second device, the first device is no longer needed.

It is also possible for two or more viewers in the same room to pursue the same signal without interfering with each other. The important aspect is that shared device (the STB and television display) makes the event known to the server, and that the server can send the event to one or more clients.

The event can be pushed or pulled.

### Setting Events for a STB using a PC

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Anthony Istvan

A STB can provide a suite of services to the viewer. Many of these services are naturally accessed from the EPG. These include setting reminders for TV programs and programming a digital video recorder (DVR). This patent expands access to this functionality, making it accessible from other devices that have access to the network on which the STB resides.

For example, a user is at the office. They realize that they are going to have to work late, and that there is a television program that they intended to watch that they are now going to miss. But wait, they can instead log in to their account and access information pertaining to the evenings program line up. They find the show they are interested in and choose the record option. The record event is transmitted through the network to the STB that contains DVR functionality. As a result, the selected program is recorded and is waiting for the user when they finally get home.

If there is only one STB in the house that contains the DVR functionality, or a separate DVR device all together, then other STBs could also be used to set the DVR event.

This also works the other way as well. If the user set a reminder to watch a program, we would enable the option to signal the reminder on their PC as well. The reminder could manifest itself as an email, or through some sort of resident application on the device. The device could be a PC, a cell phone, a web pad, or any other type of communication device. This is similar to the first patent description.

### Using an EPG to Manage Synthetic Channels

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Anthony Istvan

Jim Billmaier

Robert Novak

The existing typical television environment consists of a television with a connection to a broadcast network that consists of many television channels. Since the user is used to this channel metaphor, it makes sense to extend the metaphor when adding interactive content to television experience. The existing programming content is referred to as broadcast channels, while the new interactive content is referred to as synthetic channels. Synthetic channels can consist of functional channels, system channels, and content channels. The system channels is where the user administers the STB environment. The functional channels provide access to applications that run on behalf of the user (email, calendar, photo albums, etc.). The content channels are informational in nature (news, weather, sports, etc.). In order to mimic the behavior of traditional broadcast channels, access to the synthetic channels should be granted in a similar manner. This can include placing them in the EPG or allowing the user to access them by directly entering a channel number in their remote control. In one model, only the entry point of the synthetic channel is accessible using these methods. For example, the start page of the mail application or the home page of the news channel. Another model allows for every page that compose a particular channel to be accessible.